40th Anniversary

Summer 1989
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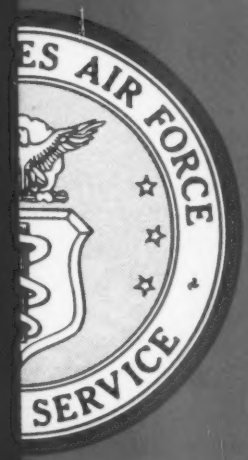

USAF Medical Service

Digest

1989

USAF Medical Service Digest

Summer 1989 Vol. 40, No. 2

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Message from the Surgeon General

July 1 marks the 40th anniversary of the Air Force Medical Service. We have a proud heritage of service to our Air Force patients, defined by the caring and dedication of our members, past and present. Each of us inherits a part of that legacy and enriches it daily as we work together to meet the medical needs of the Air Force family.

Our predecessors would not recognize the Air Force Medical Service of today. The size and scope of our mission is much more than it was that first summer 40 years ago. We began with a workforce of 5,000 that has grown today to 55,000, spanning 182 career specialties. Our original 78 hospitals and infirmaries could not compare to the 121 modern medical treatment facilities we manage today. Since 1949, our patient population has increased from about three-quarters of a million people to almost 3.5 million people.

Throughout the years, we evolved to meet the changing needs of the Air Force and the Department of Defense. One of our first tasks was to accept sole responsibility for the peacetime and wartime aeromedical evacuation of sick and wounded personnel. Today we "air evac" approximately 80,000 patients worldwide each year. Our aerospace medical research is another example of our evolution of care. In a 1950 aerospace research experiment, we hailed progress when eight white mice survived a balloon flight to 97,000 feet. Today, the Holloman Physiological Training Center reduced the G–Induced Loss of Consciousness rate in pilots of high-performance aircraft, saving lives and millions of dollars each year.

Forty years from now, we won't recognize the Air Force Medical Service, but our successors' job will be the same—to keep our Air Force healthy and fit to defend this great nation of ours. Congratulations on a job well done!

Monte B. Miller

MONTE B. MILLER
Lieutenant General, USAF, MC
The Surgeon General

United States Air Force Medical Entomology

Lt. Col. Dennis D. Pinkovsky, BSC
Col. Robert W. Clegern, BSC

Medical entomology as a vital specialty within the Medical Service deals with such intriguing matters as warding off plague and preventing exotic pests and vectors from traveling on U.S. Air Force aircraft.

Some 17 member entomologists, trained zoologists who specialize in insects, are assigned to 11 locations, such as Washington, D.C.; Florida; Colorado; California; Texas; Germany; and the Philippines to better serve U.S. global needs. In Washington, D.C., U.S. Air Force entomologists serve with others from the Navy and Army on the Armed Forces Pest Management Board. The Board is the central coordinating agency for all pest management activities of the Department of Defense (DOD). Briefly, it develops policy for the Assistant Secretary of Defense (Production and Logistics), advises DOD components on pest management, and approves materials for the military supply system.

Another Washington-based entomologist helps operate a computerized data collection and dissemination system at the Defense Pest Management Information Analysis Center (DPMIAC). Personnel there generate profiles of vector-borne diseases and pest problems on a country-by-country basis. Vector and pest distribution, biology and control of arthropod-borne diseases and medically important flora are key subjects maintained in the system.

At the Air Force Engineering and Services Center (AFESC) Maintenance Division, Tyndall Air Force Base, Fla., an entomologist oversees the pest management program that is in effect at approximately 150 installations worldwide. He monitors such programs as pesticide use, product storage, and self-help direction for military family housing.

Considerable effort is given to upgrading the equipment, pesticides, and doctrine used by the Prime Base Emergency Engineering Force (PRIME BEEF) and Rapid Engineer Deployable, Heavy Operations Repair Squadrons (RED HORSE) teams. An entomologist must insure vector control is adequate in case units deploy to sites where malaria and other vector-borne diseases are present.

While the U.S. Air Forces in Europe, (USAFE) command entomologist is based at Ramstein AB, Germany, he is in charge of numerous programs at 37 installations. Tasks include making medical recommendations dealing with biting, stinging, and stored product pests, and those which infest ornamental plants. Contract review and personnel certification are other key functions. He assists with a variety of military quarantine pest problems. For example, he works to insure that Japanese beetles are prevented from entering Europe aboard Air Force aircraft. Their appearance there could seriously menace the wine industry. The threat of the beetles boarding aircraft at McGuire AFB, N.J., and Dover AFB, Del., is so great that almost every summer, the bases are regulated—that is, aircraft departing for Europe are closed and sprayed with an insecticide agent just before take-off. An expert on rodents, the entomologist also advises how to suppress their populations and how to protect military contingency food stores.

Another command entomologist at Scott AFB, Ill., advises on disease vector surveillance and control including tailoring programs for 14 U.S. bases. He also advises on quarantine restrictions, retrograde cargo clearance and pest control for Military Airlift Command aircraft. He was recently asked to help solve a long-standing Japanese beetle problem on Terceira Island in the Azores, where the U.S. Department of Agriculture is seeking to kill the beetles while they are in the grub stage.

At the U.S. Air Force School of Aerospace Medicine (USAFSAM) Epidemiology Division at Brooks AFB, Texas, entomologists give advice in medical zoology and epidemiological matters. They publish arthropod fact sheets on such insects as wasps and fire ants. The sheets detail biological factors and distribution, and outline prevention and control measures. They also produce mosquito identification summaries and plague prevention reports. That plague poses a deadly hazard was demonstrated in recent years when one person died at a U.S. base after fleas from a diseased, dead Rock squirrel apparently came into contact with the victim. In places like New Mexico, where plague always exists to a varying degree among squirrel populations, Air Force personnel monitor the situation carefully on base and in the surrounding desert.

Additionally, entomologists investigate cases such as human plague and Japanese encephalitis on Air Force installations. At Clark AB in the Philippines,

The C-130 was used to help control locusts in Africa and mosquitoes in Puerto Rico.

infected swine and possibly birds are Japanese encephalitis virus sources for mosquitoes which may transmit the disease agent to humans. USAFSAM entomologists also maintain a large repository of preserved insect and animal specimens and medical intelligence data bases. In addition, they formulate guidelines for aerial spray, mosquito identification, pesticide resistance testing, stored product pest control, and plague surveillance and prevention. Recently, *Aedes albopictus*, an Asian mosquito capable of transmitting dengue and other viruses, accidentally became established in the United States. It is believed to have arrived in a larval stage inside a freighter's cargo of used tires unloaded at a southern port in 1985. Because it can transmit viruses so easily, entomologists recommend increases in installation-level monitoring and control of container-developing mosquitoes.

In mosquito trapping, medical entomologists use incandescent lights and carbon dioxide from dry ice as attractants. Entomologists have also tested the efficiency of indoor electrocutor light traps on flies. If properly placed, electric grid traps can make a significant impact on them. At Brooks, two entomologists in the Education Division at the School of Aerospace Medicine train personnel for vector surveillance and control in contingency situations and emergencies. Lecture topics include vector-borne disease effects on historical military campaigns, medical intelligence sources, and lessons learned during deployments, aerial spray operations, personal protection and quarantine.

Operating Location AD, USAFOEHL, Philippines

U.S. embassies, the Army and the Navy, as well as Air Force installations throughout the Orient, receive assistance from the entomologist located at the Air Force Occupational and Environmental Health Laboratory, Clark AB. He also provides support for: forensics; insecticide resistance testing of cockroaches, mosquitoes and other arthropods; lectures on contingency pest management; military readiness exercises; and identification of vector species, stored product pests and other species that may be medically or economically important. He has provided valuable assistance during malaria, dengue, and other vector-borne disease investigations and outbreaks. Additionally, he is assisted by a civilian mosquito taxonomist and a biological laboratory technician.

In addition to its entomological services to Air Force operating units throughout the Pacific theater, the 16-member staff provides analytical environmental chemistry services and on-site expert assistance in industrial hygiene, environmental quality and radiological health. All operations are designed to comply with Status of Forces agreements.

In Philadelphia, Pa., the lead staff entomologist is responsible for the conduct and maintenance of the Defense Logistics Agency (DLA) stored products pest management program. He deals with all aspects of stored pest management programs, and must be knowledgeable in contracting, procurement, supply, warehousing and distribution. His efforts protect commodities including subsistence, clothing and textiles, and medical supplies located worldwide. His work at the Defense Personnel Support Center plays a key role in the protection of the combat ration, meals ready to eat (MRE), against insects and rodents.

C–130 Spray Birds

Two entomologists are at Rickenbacker Air National Guard Base, Ohio, where one is on active duty and the other is an Air Reserve Technician (ART) permanently assigned to the unit. Primarily, they direct and coordinate the environmental and

Air Force medical entomologists perform surveys on container-breeding mosquitoes and other vectors.

safety aspects of air spray missions, supervise and instruct students in the DOD aerial spray course, and refine aerial spray techniques.

During dispersal missions, the entomologists assess the effects of environmental conditions on aerial spray, monitor the loading and calibrating of the aircraft spray system, and ensure that pesticides are safely and effectively applied onto the target areas.

In addition to frequent mosquito, gypsy moth, and Japanese beetle control missions in the Continental United States, recent projects have included grasshopper control in Idaho and vegetation control at a Utah bombing range. In 1986, the Aerial Spray Element (ASE) of the 356th Tactical Aircraft Squadron at Rickenbacker was on call to assist in controlling locust outbreaks in Africa. The following year, ASE provided aerial spray control of the dengue virus vector *Aedes* mosquitoes in large areas of San Juan, Puerto Rico.

At Rickenbacker, entomologists teach a course unique in the federal government. It deals with aerial application of pesticides. Currently entomologists have begun working with a new modular aerial spray system. Other recent studies include testing new pesticide formulations for mosquito control and cooperative research that led to the development of large area aerial control techniques for *Culicoides* midges and eye gnats.

Thus, work in the medical entomology field progresses while, at the same time, unique professional services are provided to the U.S. Air Force and other military branches throughout the world. In fact, during the development of this article, two entomological posts were filled to bring the total to 17. One is that of instructor in the Biology Department at the U.S. Air Force Academy, Colorado Springs. The other is environmental program manager on the environmental planning staff at Space Systems Division headquarters, Los Angeles AFB, Calif.

Lt. Col. Dennis D. Pinkovsky is chief of the Medical Entomology Section, Epidemiology Division, U.S. Air Force School of Aerospace Medicine, Brooks AFB, Texas. Col. Robert W. Clegern is the executive director of the Armed Forces Pest Management Board, Forest Glen Section—Walter Reed Army Medical Center, Washington, D.C. 20307–5001.

Dental Implants—Technology Answers a Need

Col. Robert J. Cronin, DC

Dental caries and periodontal disease are less prevalent because of the active dental health program emphasized by the Dental Service during the past 20 years. However, the dental profession is still confronted with many patients who have lost all or some of their teeth. As the teeth are lost, the specialized bone that once surrounded those teeth is resorbed because of loss of function.

Patients who have suffered considerable loss of bone following tooth loss present a most difficult rehabilitation challenge for the dental profession. Historically, these patients have been treated surgically with reconstructive procedures, including bone grafts, with a relatively unpredictable prognosis. Conventional denture techniques for these patients have similarly resulted in compromised function, phonetics and aesthetics. Dental implants appear to be the solution to this problem. Dental implantology, already an extremely popular patient service in Europe, is currently experiencing explosive growth in the United States.

Swedish Researcher

Recent improvements in materials and surgical techniques have elevated dental implantology from a most controversial treatment modality to a much more predictable alternative to conventional dentures. A Swedish researcher, Dr. P–I Branemark M.D., Ph.D., published the results of his laboratory and clinical research in 1981 documenting the effectiveness of a titanium implant as a scientifically proven method of retaining artificial teeth in the human jaw (1). The Branemark implant system has documented longitudinal studies of more than 20 years which demonstrate a 90 percent success rate with dental implants in the lower jaw. More recent studies have reported that the five year survival rate for Branemark implants enjoys a higher than 95 percent success rate (2).

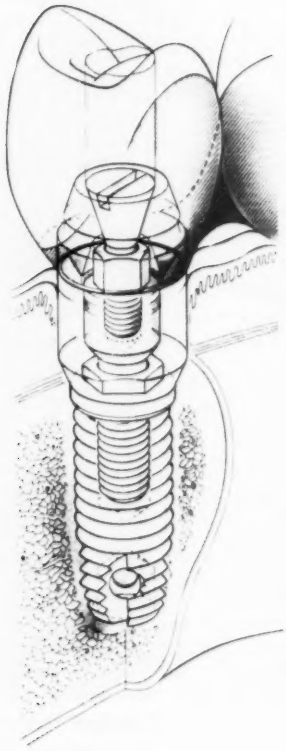
The surgical technique used to place the titanium tooth form implants is a two-step procedure. In the initial procedure, the implant is placed into a carefully prepared bony site and the oral tissue is sutured tightly to allow the bone to heal for a period of three to six months. Dr. Branemark called this "osseointegration." The term means simply that the bone grows to a very close approximation with the titanium implant with no soft tissue interface. To achieve osseointegration, a biocompatible material such as titanium must be placed into vital bone by a carefully controlled surgical implantation, and the implant must remain immobile for a period of initial bone healing. Following this fusing of bone and titanium, a second surgery is accomplished that places a connection into the implant through the oral mucosa and into the oral cavity so that artificial teeth may then be attached to the implant.

After successful osseointegration, the implant can be used by the prosthodontist to attach a highly functional and stable dental prosthesis. This is accomplished by the use of mechanical or magnetic attachments. This tissue-integrated prosthesis increases the patient's ability to comfortably speak and chew while greatly slowing any further loss of the jaw bone.

A Dental Implant Consensus Development Conference was held in Washington, D.C., in June 1988, sponsored by the National Institute of Dental Research, the National Institute of Health (NIH) and the Food and Drug Administration (FDA). This conference examined the complexity of the surgical, prosthodontic and periodontal procedures used to successfully insert and maintain dental implants. The conference examined several case series studies examining the placement of implants that have remained in place for more than 10 years. It was the consensus of the NIH panel that the efficacy of dental implantology as a treatment modality has been demonstrated by the functional success of these new root form implant systems. The panel further stated that the technical complexity of treatment with dental implants demands the use of a multidisciplinary approach in this field.

A More Effective Method

An introductory course in dental implantology was conducted at Wilford Hall USAF Medical Center in November 1986 for the combined specialty teaching staffs in oral and maxillofacial surgery, periodontics and prosthodontics from Wilford Hall and David Grant US Air Force Medical Centers. These major teaching programs were then charged to investigate the potential of dental implantology for Air Force use. The initial experiences gained from the instigation of these new patient services in osseointegrated implants has been very positive. Dental implants for treatment



NOBELPHARMA USA, INC.
Waltham, Massachusetts

This illustrates the bone anchorage unit (fixtures, abutment and attachment screws) as it would appear with a prosthetic tooth affixed.

of severely resorbed lower jaws has been found to be a more effective method of jaw reconstruction than extensive surgical procedures. However, at its current stage of development, the practice of dental implantology requires specialized equipment and is technically demanding.

Based on the experience gained at these two medical centers, the Air Force Surgeon General's Office has announced an expansion of dental implant services to selected medical centers and hospitals. A course on dental implantology was given at Wilford Hall USAF Medical Center in December 1988, credentialing teams of oral and maxillofacial surgeons, periodontists and prosthodontists to perform patient services in dental implantology. It is anticipated that this annual course will serve as a training vehicle for teams from a total of seven medical centers and regional hospitals each year.

Twenty Million in Dire Need

The NIH conference on dental implants estimated that as many as 300,000 dental implants will be used each year in the United States by 1992. They will certainly be used to provide a far better restorative service than now exists for patients who have lost all of their teeth. The proven long-term success and clinical safety documented by research studies combined with the greatly improved function of the implant-borne prosthesis will assure its greater popularity. New techniques to increase the level of aesthetics achievable with implant-borne tooth replacement has created a rapidly evolving technology. Short-term experience with the restoration of short edentulous (without teeth) areas with osseointegrated implants has been promising (3). Additionally, the use of sectional tissue-integrated tooth replacements to restore partial edentulism

in combination with natural teeth has been favorably reported (4). The use of implants to return comfort and function to our periodontal patients has also been reported to be successful (5).

A particularly interesting application of the dental implant system involves patients with congenital or acquired oral or maxillofacial defects (6). The use of osseointegrated implants to serve as anchorage units for the attachment of ear, nose or eye prostheses will allow us to provide a retentive base of much higher strength for these patients. The extra oral use of the titanium dental implants has not yet been approved by the FDA. However, Wilford Hall Medical Center has recently been selected as a research center for a multiple center FDA exemption protocol study to examine the efficacy of these osseointegrated implants for retention of facial prostheses. There are more than 120 million people in the United States who have lost all or some of their teeth. Approximately 20 million of these patients have no teeth remaining at all. It is this patient population that is in dire need of dental implants to return them to a state of acceptable function and oral comfort. Patient services in dental implants are definitely here to stay. We are excited to be able to provide those patient services for our Air Force population and anticipate an increase in their use in the decade ahead.

Col. (Dr.) Robert J. Cronin is chairman of the Department of Prosthodontics and director of the Prosthodontic Residency Program at Wilford Hall USAF Medical Center, San Antonio, Texas. Colonel Cronin also serves as the special consultant in prosthodontics to the assistant surgeon general for Dental Services.

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Osseointegrated implants placed in lower jaw.

Continuing Medical Readiness Training—Maine Winter Style

Maj. Bruce B. Davenport, NC

The challenge was laid down by the skeptics. They all said, "Somebody will get hurt. How will people stay warm? How will you feed them?"

All these questions and more were answered during a medical readiness training exercise in an arctic-like environment. It was the first such training exercise ever conducted by the 42nd Strategic Hospital, Loring AFB, Maine.

Planning for the January 1989 encampment began in early fall. The cadre members assembled and divided responsibilities into two broad areas—logistics and training. While experience in previous summer deployments was helpful, there was no corporate knowledge of comparable winter deployments.

Maine Winters Can Be Unpredictable

The utmost concern was for personnel safety in an environment known to be unpredictable. As it turned out, ambient air temperature through most of the 66 hours of field training remained at a range of 0 to 25 degrees Fahrenheit. How did we do our job and create an injury free record? First, we thoroughly educated our students and cadre members. The initial day of training was in a classroom where personnel learned about cold injuries and how to wear winter clothing. They were instructed that the acronym, COLD, represented important lessons to survive in arctic conditions: C, for clean body and clothing; O, for overheating, a common danger; L for layered clothing to protect oneself and one's patients; and D, dirty, a condition to avoid in the medical mission.

"Casualties" arrive by truck during exercise.

Patient loading aboard C-130 takes place on snowy flightline.

Searchers are prepared to move a casualty on a litter fitted with skis.

Don't get wet, sweat or even overheat was the substance of the lecture provided by life support personnel on survival techniques in the arctic. Students were then allowed to return home to pack extra winter gear for the field.

Logisticians obtained general purpose medium tents from the Maine National Guard. Most of the tents were erected over preexisting frames and permanent plywood base. But to meet a tent pitching requirement, one tent was erected using special winter stakes provided by the base Prime Beef Team. Ground heaters procured from the base aircraft generation section (AGE) were used. They proved to be so powerful that students complained about the heat rather than the cold while in the tents, and learned that while the heat gave them comfort enough to disrobe before sleeping, the corrugated hoses from the heaters carried too much of it into the structure. This was noted for future planning.

Two Hot Meals Daily

Lack of correct calorie intake can contribute to hypothermia in an arctic setting, therefore, students ate two hot meals each day. Breakfast and dinner were issued from a mobile kitchen trailer (MKT), thereby enabling hospital food specialists to meet their annual field training requirement operating an MKT. Traditionally, the training takes place during the summer, however, the food specialists benefited from the training so much that they plan to schedule their next training exercise in the winter. Lunch was the often-encountered meal-ready-to-eat (MRE). Another lesson learned was the degree of difficulty encountered to make the fuel spray system in the M–2 burners in the MKT work reliably.

Desert-Like Dryness

The need for water is a high priority in an arctic environment. Because humidity at below-zero temperatures can be less than 5 percent, a desert-like dryness can quickly lead to dehydration. Therefore, students were encouraged to drink on a regular basis. Another lesson was learned when the water buffalo system broke. Shortly after the encampment began, the immersion heater in the buffalo warmed the water. A rush of warm fluid came into contact with a pipe junction near the nozzle. It gave a sharp cracking sound like the noise of a .22 caliber shot and broke in half. For the remainder of the exercise, water was transported to the site in large plastic bags which had to be stored near a heater to keep them from freezing. Next winter the troops plan to warm the pipe junction with a slow drip of warm water beforehand.

Life Support personnel taught a broad range of winter survival skills including shelter building and skill training. A litter course was run with students wearing snowshoes. In another training challenge, a patient was retrieved by students on cross country skis using a litter, also fitted with skis. To make it more interesting, they relied upon a compass to guide their course. Students also built a community shelter using pine boughs and snow. Nine of them spent the night in minus-25-degree temperatures, and indicated that the shelter was comfortable.

To practice mass casualty treatment, 22 simulated casualties were delivered to the compound aboard a five-ton truck. During the exercise, special emphasis was placed upon prevention of real, cold-related injuries to both students and simulated casualties. After that exercise, students, "casualties" and cadre went to the flightline at Loring for a briefing on aircraft and patient loading. At the end of the briefing, the students loaded their patients aboard the C–130 and went on a one hour orientation flight conducted by the 1st Air Evacuation Squadron from Pope AFB, N.C.

The routine field schedule began with 6 a.m. cleanup. Breakfast was served at 6:30 followed by physical activities to allow students to warm up during the colder hours of morning. A student favorite during this period was the snowshoe litter training course. Midday activities were chiefly training in arctic survival. The second field day included a trip to the base gym for a shower. At campfire gatherings held each evening training continued. Life support personnel instructed the group in fire craft and how to orient their position by star and constellation positions in the sky.

Lessons Learned

Generally, all of the students gained confidence in their ability to work and survive in a winter environment. They experienced the difficulties of providing patient care and transport in a cold climate. For example, they had to consider the tradeoff involved in assessing injuries to their patients as opposed to keeping them warm enough to protect them from thermal injury. They experienced the challenge of treating patients while retaining their own gear including their mittens. When they loaded patients in five-ton trucks for transport to the flightline, they experienced the difficulty of lifting litters to the truck bed height, particularly while wearing cold and sometimes slippery mittens. They had to consider how to keep critically injured patients warm inside the vehicles while loading additional patients. In addition, they became familiar with the patient-loading procedures employed aboard a C–130 aircraft. The broken water buffalo nozzle taught the hard lesson that many aspects of camp life are dependent upon water. The lack of hot water slowed meal preparation and reduced the quality of the sanitation facilities.

Another factor that students and cadre had not recognized in the planning stage was the degree of physical effort demanded by the arctic environment. Although students were provided as much rest as possible, the physical strain appeared evident after the three-day encampment. The trainers also recognized that this winter exercise required invaluable assistance from outside agencies. In just this brief 66 hour period of planned activity, support was required from the base security police squadron; maintenance squadrons; the morale, welfare and recreation unit; the Maine National Guard; and the 1st Aeromedical Evacuation Squadron, Military Airlift Command. Hospital personnel were enthusiastic about the favorable results and plan to stage another encampment next winter, instead of during a milder season as in the past.

Maj. Bruce B. Davenport was the continuing medical readiness training project officer at the time of the encampment. He was assistant chief nurse and supervisor of Surgical Services at the 42nd Strategic Hospital, Loring AFB, Maine. He is scheduled to be assigned to the Medical Center at Wright-Patterson Air Force Base, Ohio.

Innovation in Health Care Comptrollership

Capt. Carl McCann, MSC
Capt. John A. Penrod Jr., MSC

What is innovation? Often the word, "innovation," is used as a synonym for invention, but the two words have very different meanings. An invention is a new idea or concept, such as invention of the electrical incandescence of a filament. An innovation is the transformation of that invention into a socially usable product such as a light bulb.

A classic example of innovation came about as the result of Adm. Sir Percy Scott's observations. In 1898 he noted that naval gunfire was inaccurate. The pitch and roll of a naval vessel caused the gunners to frequently miss the target. Admiral Scott then ordered aiming gears installed. This allowed the gunners to pivot their weapon as they aimed it, and then to fire.

In 1967, a research engineer was working on a problem with computers designed to recognize the written word. During his research, Dr. Godfrey Houndsfield of Electrical and Musical Industries Ltd., discovered computerized axial tomography (CAT), familiarly referred to as a CAT scan.

Responsibility Center Management

So innovation is not as glamorous as the inventor's cry of "Eureka." Rather, innovation sometimes comes about without fanfare. This was the case when, in 1985, Wilford Hall U.S. Air Force Medical Center (WHMC) reorganized from a standard Air Force medical facility financial structure and formed a Responsibility Center (RC) structure. Before the reorganization, WHMC had more than 360 primary and alternate cost center managers. All of these managers conducted financial business directly with the Medical Resource Management Office. In smaller organizations this direct communication does not present a major problem. At WHMC this meant that major financial issues were often not presented to managers responsible for cost centers within their area of responsibility.

An RC structure is derived from the organizational structure. An RC can be a department, function, or group of functions for which a specific individual is responsible. Such a structure takes budgeting and financial management from a peripheral staff orientation and places it within the organizational element with responsibility for the department, function or group of functions. So an RC structure is a system of managing finances consistent with the formal organization.

RC structures are not new to the Air Force. Every base or wing must comply with Air Force guidance mandating such formal structures. Under such organization, the supporting hospital or clinic is a responsibility structure of the base or wing. The hospital commander attends the base Financial Management Board and the medical resource manager attends the Financial Working Group (FWG) as well as managing the Cost Center Management Program. However, many larger Air Force Medical Centers are not a formal part of the base financial management organization. These medical centers may be tenant organizations or simply have separate Operating Budget Account Numbers (OBANS) which in effect create autonomous organizations. This is the case at WHMC.

Within the formal WHMC organization are more than 4,000 people with an Operations and Maintenance (O&M) program of $77 million. There are 250 established cost centers. Some $100,000 per day is the cost of routine medical supplies at a total of 170 of the largest centers. The centers are managed by 360 primary and alternate Cost Center Managers. In 1985, before converting to the RC structure WHMC operated, in a financial sense, much like a standard Air Force hospital or clinic. Under the existing system a FWG acted as a subcommittee of the executive body and provided overall financial recommendations to the financial committee.

Medical resource management was responsible for conducting the Cost Center Management program (training, budgeting, information and reporting) as well as executive support, and finance operations such as processing vouchers for payment. In effect this meant that WHMC's medical resource management staff was responsible for providing support directly to all managers. Individual section managers were often

present to plead their funding requirements each month, quarter and year. Funds were allocated and reallocated based upon direct pleading and confrontation with resource management staff. The fundamental problem was span of control — trying to do too much through too many people with too few staff members.

While the FWG operated as the apparent controlling force, this committee's primary function was to assist in monitoring the institution's financial execution, budgeting and other facility-wide financial matters. They did not participate in many aspects of the financial management process such as review of purchase or travel requests or budgeting outside of their cost center. In the revised plan, each division has one representative with the exception of hospital services which has a number of representatives in keeping with its size. Medical Resource Management with the approval of Executive Management created an RC structure proposal in September 1985. This structure mirrored the formal organization, establishing all directorates as responsibility centers. There was one exception. Because of the size of the Directorate of Hospital Services, it was divided into five responsibility centers at the divisional level. The divisions being: Medicine, Nursing, Maternal Child Care, Support, and Surgery. Along with changing the FWG membership, formal responsibility and authority was delegated to each center.

Within each center the directorate or division chief became the responsibility center manager and was asked to appoint a resource advisor to assist in discharging the center's new responsibilities. These advisors were generally in the grade of captain to major with some lieutenants and senior enlisted and civilian staff. The advisors assisted in the review and approval of travel and purchase requests, and the consolidation of budget needs for the center. They also recommended annual budget targets for each cost center under their responsibility, and movement of funds between commodities or sections within their center. When the advisors conducted monthly cost center management meetings, viewed training films and discussed status of funds from micro and macro perspectives, the responsibility manager served as moderator and provided guidance.

Many Activities Involved

The primary reason for implementing this structure was to encourage more responsibility. Of course, there was the probability that responsible spending would lead to decreased costs (see McLeod, et al. 1984). A decision to center into a responsibility center structure should have full executive support because the process can be burdensome. For full conversion, many base activities must be involved. Accounting and finance must create new codes for responsibility centers and cost centers (RC/CC). Additionally, supply listings, shopping guides and lists of equipment custodians must be changed to reflect the new accounts. Historical maintenance reports must be interpolated to reflect the new accounts. While the investment in time can be considerable, the potential benefits are worth the effort in large organizations.

After formation of the Joint Military Command in San Antonio (JMMC-SA), resource allocation to Brook Army Medical Center (BAMC) came under Air Force auspices. Soon thereafter, the BAMC comptroller staff studied the WHMC example and in 1988 BAMC adopted a responsibility center also. At WHMC this structure has proven to be effective for the financial management process during normal operations. However, WHMC also benefited greatly from this change when it was able to successfully cope with the budget reduction experienced by medical services during fiscal year 1988 and complete the year with no increased expense from the previous year. Finally, while the cost center management program at WHMC had been rated less than satisfactory by Health Services Management Inspections (HSMI) teams in two past inspections, it was not until October 1988 that HSMI rated the program at the top of the scale. The conversion to a responsibility structure made the difference.

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Hurricane Gilbert: An Aeromedical Evacuation Experience

Capt. Jean M. Kelly, NC
Lt. Col. Georgia A. Hale, NC
Col. Thomas L. Spruiell, MSC
Lt. Col. Arthur D. Johnson, NC

The dark skies and gentle winds in San Antonio gave but a hint that one of the most potent storms in history was only 200 miles away in the Gulf of Mexico.

Hurricane Gilbert's path was predicted to hit Corpus Christi, Texas, 150 miles south of San Antonio. On Sept. 15, 1988, Air Force Reserve aeromedical crews and ground support teams from both the 34th Aeromedical Evacuation Flight (34 AEF) and the 32nd Aeromedical Evacuation Group (32 AEG), 433rd Military Airlift Wing, Kelly AFB, Texas, were voluntarily mobilized to assist with emergency air evacuation missions resulting from the impending danger of Hurricane Gilbert. Because of the anticipated path of the storm, it was determined that immediate evacuation of the Corpus Christi State School residents and staff was necessary.

Texas Governor William Clements activated the Texas Air National Guard to provide support for the school's evacuation with C-130 aircraft. Col. Thomas Spruiell, 32nd AEG commander, was asked to provide the guidance, coordination, communication and equipment to move approximately 180 patients and staff. That number climbed to 448 in a relatively short time. The Guard and Reserve units quickly alerted members and requested them to report immediately. In keeping with their preparedness training, the Guard members and reservists left their civilian jobs on short notice to support the mission.

The initial number of persons needing evacuation soon escalated, as no ground transport could be arranged quickly enough for the ambulatory patients. All were air evacuated September 15 from Corpus Christi to Kelly AFB, Texas. The 32nd AEG and 34th

Severely retarded children are moved from hurricane path.

Flightline loading of children aboard C-130 is underway.

AEF each provided two aeromedical evacuation crews. A total of seven missions were flown.

The missions were extremely challenging as nearly all the state school residents were severely retarded and suffered from complex medical conditions. Many were flying for the first time and were frightened by the noise and confusion of an unfamiliar environment.

Capt. Hollis Duffin, a cancer research nurse and a Reserve flight nurse for six years, reflected, "It would be a challenge to take care of these patients in a hospital setting, but add an airplane, noise, vibration, turbulence, limited space and unfamiliar people dressed in flight suits, and you have a *real* challenge. It was an experience to keep all of the patients in their litters because they had difficulty understanding the concepts of in-flight safety, but we did it efficiently and safely."

Aeromedical members worked diligently with school staffers to reassure the patients and provide for safe and comfortable movement. Several patients required intensive in-flight care because they had seizures. Also, the in-flight turbulence caused many patients and some school staffers to have episodes of air sickness. Airway management was an ongoing challenge, as the patients were on litters throughout the aircraft. Adequate hydration was also a major concern because of the aircraft environment and the heat. Competent care and close observation by the medical crew members prevented any serious medical complications from occurring. Additionally, the presence of the school staff with their knowledge of the patients was vital. During the recovery phase of Hurricane Gilbert on September 19, the Texas Air National Guard was again activated to provide C-130 flying support, and the 32nd AEG and 34th AEF were asked to provide equipment and aeromedical evacuation crews. A total of 225 patients were returned by air that day. The 34th AEF had a total of 15 flight nurses and 15 aeromedical technicians providing flying and ground support during the operation. The 32nd AEG provided one MSC officer, four flight nurses and 14 aeromedical technicians for flying and ground support during the operation.

After the mission, nurses gave voice to their thoughts. Lt. Col. Janie McDonald (a full-time graduate student and Air Force Reserve flight nurse of 14 years) said, "Our medical crews were extremely proficient in providing in-flight care on short notice. This is the real purpose of our training."

Nurses assigned to the 32nd AEG, who helped move and care for the retarded patients included Lt. Col. Virnita Mountain, an air reserve technician, who stated," I was pleased to see the overwhelming response of individuals volunteering to support this mission, and to see that our training programs had paid off. Patient combinations ranged from 25 litters on one sortie, to 58 litters and 13 ambulatory on another. With apparent ease, and limited supplies, crew members provided the utmost care for this large number of patients. This rewarding experience emphasized the importance of training to meet peacetime and wartime needs.".

Major Schiefer, a certified Air Force nurse practitioner, and a flight nurse for more than 12 years, stated, "I saw just how effective a concept of rapid deployment in aeromedical evacuation can be in safely assessing, loading and transporting more than 400 patients during a natural disaster."

1st Lt. Paula Mann, in-service coordinator at Afton Oaks Hospital, San Antonio, said, "This was my first live mission. I was impressed by the cooperation and efficiency of our team in action, and felt comfortable with the training I had received for peacetime disasters."

Air Force Reserve and Air National Guard respond to threat of Hurricane Gilbert.

The Making of the New Medic

SSgt. Kyle C. Monson

Medical Service specialists have long been the backbone of Air Force nursing care. They have been the primary providers of direct patient care in our medical treatment facilities and our aeromedical evacuation services since the late 1940s. The course that trains these important people with the AFSC 902X0 has gone through major changes in the last five years, changes that are expected to greatly increase the quality of medical care in the U.S. Air Force.

Enlisted Men Were Hospital Stewards

The training of enlisted medics has a history that dates to the American Civil War when enlisted men were assigned to Army hospitals as hospital stewards. The demands for nursing personnel during World War II led to the widespread use of enlisted medical specialists in Army hospitals. These occupational specialties were carried over into the Air Force in the late 1940s, and the first Air Force Medical Specialists were trained on the job.

Recognizing the need for standardized training, the Medical Service Specialist Course was established at the School of Aerospace Medicine, Gunter Branch at Gunter AFS, Alabama, in the summer of 1954. The course originally was six weeks long. It has varied through the years from six to 24 weeks in length. The course was offered at Sheppard AFB, Texas, when the 3790th Medical Service Training Wing (then the Medical Service School) was relocated there during the Vietnam conflict.

During the 1970's the training of medical service specialists was cut from a 24-week resident course to a six-week resident course, but with an emphasis in job training in the field. This was thought to be a practical means to save money at the time because supervisors in the field, with their years of experience from Vietnam, could adequately train their students on the job.

In the late 1970s, however, the system for training medics started to break down. Many of the experienced NCOs had retired or were promoted to positions where they were no longer front-line supervisors. As a consequence, the quality of training on the job suffered, and the medical service specialists were no longer as proficient in their jobs as they had been. In addition, because of the increasing complexity of health care and the decrease in training time, the medical service specialist training of the late 1970s did not adequately prepare the specialists to deal with these career changes.

Changing Nature of Patient Care

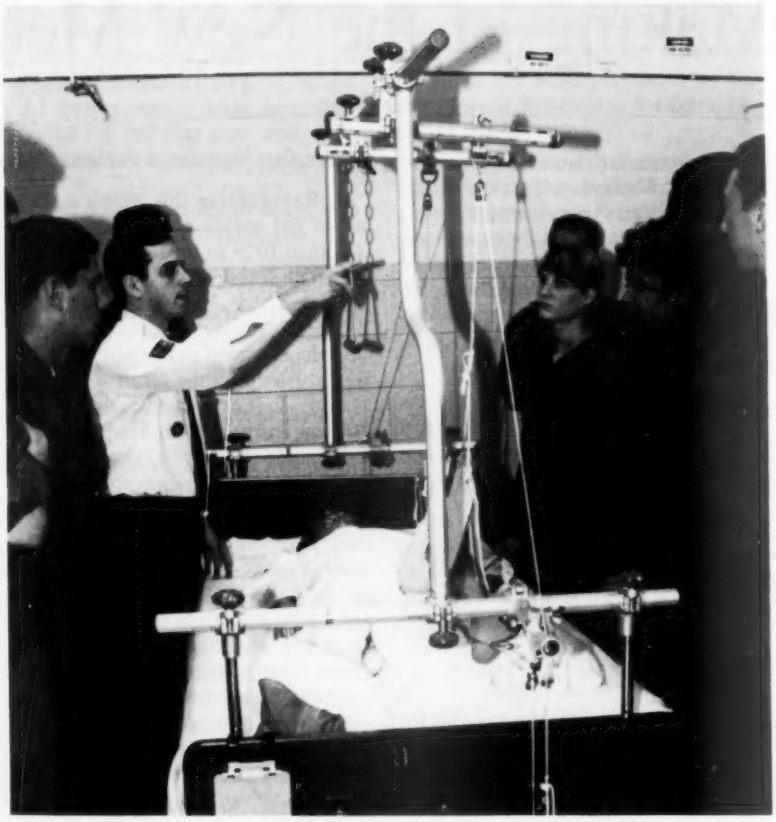
Recognizing this problem, representatives from all of the major commands met at Sheppard AFB, Texas in 1979 to redefine the training requirements for medical service specialists. The new requirements reflected the changing nature of patient care. For example, some 20 years of advances in technology introduced much new equipment and a host of procedures. Based on the results of this conference, the Air Force Surgeon General directed the Department of Nursing at the 3790th Medical Service Training Wing to upgrade the three-skill-level instruction (apprentice level) for the specialists to reflect the improved training.

This upgrade was accomplished in three increments. In October of 1984 the Medical Service Specialist course was increased from six to eight weeks of resident training. In October 1985, it expanded to 10 weeks of resident training. Just one year later, the course was divided into two separate topics of instruction. One was a 14-week resident course, the other, an eight-week clinical experience course. One week of basic medical readiness training was incorporated into the resident course.

The resident course (J3AQR90230–003 Medical Service Specialist-Resident) is an intensive study in basic nursing skills, medical terminology, basic pharmacology, emergency medical training, basic cardiac life support, and many types of specialized nursing care. Graduates are certified in Basic Cardiac Life Support and receive the classroom instruction for the National Registry of Emergency Medical Technicians examination.

The clinical experience course (J3ABP90230–003 Medical Service Specialist-Clinical), known as the clinical phase, is conducted at 12 locations throughout the United States. The sites are: Maxwell AFB, Ala.; Davis-Monthan AFB, Ariz.; Eglin AFB, Fla.; Keesler AFB, Miss.; Andrews AFB, Md.; Offutt AFB, Neb.; Wright-Patterson AFB, Ohio; Travis and Mather AFBs in California; and Carswell, Lackland, and Sheppard AFBs, all in Texas.

In the clinical experience course, the students are given hands-on experience in direct patient care. This course stresses the application of the skills learned in the resident course, and the opportunity to work with real patients in a health care setting. The students are rotated through inpatient wards, outpatient clinics, and the emergency room. They are put through their paces under the close supervision and guidance of instruc-



SSgt. Kyle Monson demonstrates traction equipment used in patient care.

tors and preceptors. In addition, the students attend classes in a formal setting and practice a variety of new skills. After completion of both the resident and clinical courses, the students are awarded the three-skill (apprentice) level, and are eligible to take the National Registry of Emergency Medical Technicians examination.

Some of the nearly 2,000 active duty, Air Force Reserve, and Air National Guard students who are trained annually may receive additional training. The medical service specialist courses are prerequisites for the shred-out skills of allergy-immunology and neurology, and necessary for further career development as Independent Duty Medical Technicians (IDMTs) and clinical hyperbaric technicians.

The innovations in Medical Service specialist training are of enormous importance. The graduates of the new courses are better qualified to perform their vital jobs than the graduates of the old six-week course. They are able to "hit the ground running." Since they have spent eight weeks in clinical rotation in an actual patient care setting, the graduates of the new course will require less orientation time, on the average than their predecessors. In addition, they will be more comfortable in dealing with patients when compared to the six-week course graduates who had very little hands-on training before they reached their permanent duty station.

Overall, the graduates of the new Medical Service specialist courses should represent a lower risk management quality assurance factor in the provision of patient care than their predecessors because their background knowledge and training is now much more extensive.

The initial feedback from Air Force medical treatment facilities has been most positive. At the February 1988, medical service technician utilization conference at the 3790th MSTW, most of the command medical service managers reported many positive comments from front-line supervisors in their commands. Some even reported that the new course graduates were teaching their supervisors the new techniques they had learned at Sheppard.

The Department of Nursing at the 3790th MSTW

has assembled an impressive organization to teach the new medics. The resident course at Sheppard has 62 enlisted instructors assigned to teach the nearly 2,000 students that go through the course each year. The clinical experience course has 24 instructors assigned throughout the 12 sites. The resident course has, at any given time, an average of 500 to 600 students in training and 25 classes in session.

The instructional team has often been described as the "cream of the crop" of the Medical Service specialist career field, and the instructor cadre has some of the keenest and most creative people in the Air Force Medical Service.

Always on the lookout for a better way, the Medical Service specialist instructors incorporate a sense of realism in their laboratory sessions. They have constructed simulated patient units (complete with sinks, mirrors, beds, oxygen/suction wall units, call bell and similar items) to teach isolation techniques and code blue procedures. They have also refurbished a Volkswagen "Beetle" car body to teach how to extricate patients from cars. The students also practice loading patients on and off a realistic modular ambulance simulator.

Competence is the watchword among the instructors. In addition to their years of experience, many of the instructors have college degrees—most have an associate degree, many have a bachelor's, and some a master's degree. Additionally, several of the enlisted instructors are licensed registered nurses or licensed practical (in some states termed, "licensed vocational") nurses, and all have training as emergency medical technicians.

The changes in the Medical Service specialist training will have a far-reaching impact. Specialists perform the primary care in Air Force medical facilities worldwide. The increase in their skills, and the heightened pride and professionalism among them will result in better health care for all Air Force members and their families.

SSgt. Kyle C. Monson is an instructor in the Medical Service Specialist Course at the 3790th Medical Service Training Wing, Sheppard AFB, Texas.

AB Wade Gatewood demonstrates suctioning techniques on a mannequin.

The Medical Facility Utilization Study

Lt. Col. Norman E. Notdurft, MSC
Maj. Stephen W. Gressel, MSC

Would you drive your family on a long trip in an aging, poorly maintained, unreliable, undersized car? "Of course not, not if I can help it!" is a probable response. But, maybe you would if the car were repaired and spruced up enough to be fairly reliable until you had the means to replace or restore it at some future date.

Too often, we offer health care in an old, run down, crowded hospital or clinic. Here, too, there may be some way to repair it, make it more functional, or give it a more professional appearance until it can be replaced or restored through the Military Construction Program (MCP) process. Our purpose is to explain how the Air Force Surgeon General's Health Facilities Division uses a process called the Facility Utilization Study (FUS) to help the medical treatment facility staff function while the MCP planning, programming, design, appropriation, and construction process develops. It can also benefit a new or basically adequate facility needing minor changes that can be funded using Operations and Maintenance (O&M) funds. New and expanded services, minor mission changes, and provider mix changes can sometimes be handled with O&M projects.

The concept of the FUS had been used by the Health Facilities Office-Western Region (HFO–WR) for approximately five years with considerable success at 17 medical treatment facilities ranging in size from a regional medical center to a base clinic. The FUS is really a consulting service to the local medical commander. It identifies facility problems, analyzes them, and recommends solutions which could range from minor alteration to complete overhaul. It offers an objective view to the major commands (MAJCOMS) the Air Staff and, in some cases, to the Department of Defense varying from suggested minor O&M funded projects to acceleration of a facility's position in the Five Year Defense Program (FYDP) by the Defense Medical Facilities Office of the Office of the Assistant Secretary of Defense (Health Affairs).

Determining the Need for a FUS

Medical treatment facility executives are the most common source for requiring a FUS. Most often, their motivation is a sense of frustration on how to upgrade a hospital when it is 25 years old, not in compliance with current life and fire safety codes, wearing out mechanically and electrically, and constructed for the practice of inpatient oriented medicine. Coupled with those significant factors is the disparity between O&M requirements and actual O&M funding of maintenance, repair, and minor construction. The demand for space and increased productivity has resulted in minor construction funding, while the maintenance and repair of structural and utility systems is left seriously deficient.

An average of only 2.5 percent of the Air Force Medical O&M budget has been spent in maintenance, repair and minor construction in the 10-year period, fiscal year 1978 through fiscal year 1987. The expenditure trend over the last five years has been upward, but the increasing backlog of projects indicates this level of effort has not been satisfactory, notwithstanding the success in the medical Military Construction program (MCP) during the past eight years.

The construction of a replacement composite medical facility, or a significant addition or alteration, solves many facility functional or physical plant problems. It is also time-consuming. From the conceptual idea to the ribbon-cutting is a 10-year process, assuming there is no mission change, programming shortfall, design breakage, congressional deferral or construction stoppage. Difficulty in any one or more of these areas takes the procurement average to nearly 14 years. An MCP is obviously not the choice for immediate problems.

We never conduct a FUS without the invitation of the local medical facility. This request could be motivated by one or more of the following: the MAJCOM medical or engineering communities assuring the most efficient and effective use of O&M funds; preparing for major mission changes; shifting patient population or mix; changing military or civilian referral patterns or capacity; or making a major equipment purchase. More subtle changes occur over a longer period of time, such as the shift from inpatient oriented sick care to outpatient oriented health care brought about by advances in technology. In the 1980's the relative success of the medical construction program generated the need for studies to verify and document the requirement for, and the services to be

included in, a major MCP project. With slight modification these studies became FUSs.

Another strong motivator for requesting a Health Facilities Office FUS is the scheduled arrival of either the Air Force Medical Inspection Team or the evaluators from the Joint Commission on Accreditation of Health Care Organizations. A recent change to Air Force Regulation 168–4, "Administration of Medical Activities," requires a prioritized facility master plan for each medical treatment facility. This causes many administrators and facility managers to research the address and telephone numbers of their Regional HFO's.

The capacity of the Air Force and Veterans Affairs Department (VA) to share facilities and services is now a significant factor in FUSs accomplished at Air Force hospitals and clinics with proximity to VA facilities. Construction at the Kirtland AFB, N.M., Clinic, design of the Nellis AFB, Nevada, Hospital, and planning of MCP projects at Elmendorf, AFB, Alaska, and Patrick AFB, Florida, reflect this capability to share in the federal sector.

FUS Team Members

With such a broad range of potential limiting factors, it is not surprising to discover that there are usually a number of interrelated reasons for facility inefficiencies. Consequently, the HFO–WR FUS Team is composed of at least one officer trained as an architect or engineer, and at least one trained or experienced as a medical facility planner and administrator. Team size and composition is dependent upon the size of the facility and the number of known or anticipated problem areas. A typical team would include an experienced planner-administrator, an experienced architect-engineer, and an architect or administrator Facilities Fellow. HFO–WR team sizes have ranged from one person (for a third follow-up) to six at an overseas regional medical center. Again, depending on known or anticipated problems, we may ask for augmentation by the Air Force Regional Civil Engineer, MAJCOM surgeon or MAJCOM engineers.

Data Collection

Once the team is formed and a general appreciation as to why the invitation to study a facility is developed, a period of data gathering begins. This is a very important and perhaps misunderstood step in the process, and one of the reasons why a FUS does not take place on a moment's notice. There are no assumptions made as to what the problems or solutions are, prior to gathering data and verifying it during the site visit. Current workload statistics are gathered. Authorized and assigned staffing, specialty mix and referral options (federal and civilian) are reviewed.

This information, in addition to giving a general idea of facility use and deficiencies, is used to generate a Program For Design And Equipment list of an ideal hospital, clinic or dental facility based on DOD criteria. The Program For Design is the same document used in developing a major MCP project. For the FUS, however, it is used as a basis for comparison of space allocation between the present medical facility and the desired configuration of services, workload, and staff. The equipment list prevents any emissions in the space allotted for equipment to support the medical mission.

The as-built and current floor plans are compared. The readiness mission is evaluated. The most recent Medical Inspection report; MAJCOM/SG Staff Assistance Visit report; and Joint Commission on Accreditation of Health Care Organizations, Contingencies and Additional Recommendations report are also reviewed. Finally, a review of scheduled and programmed maintenance, repair, and minor construction projects is accomplished.

The Actual FUS Process

Armed with this broad range of facts and statistics, the FUS team is now ready to begin the on-site FUS process. Upon arrival, the team receives the medical facility briefing and tours all sections of all medical buildings. This establishes a common basis for the team member's analysis and an opportunity for the facility staff to point out items of interest or concern. The building blocks of a successful FUS are now being placed.

The FUS may be, by definition, one of the few true management consulting services available within the uniformed Air Force community. The FUS team will observe, evaluate, discuss, reevaluate, and provide comments and recommendations on all significant areas. Using a facilities analogy, once the front door is opened and the threshold crossed, there are no closed rooms.

Based on statistical data, items of concern from the facility briefing and observations from the facility tour, FUS team members interview functional area officers-in-charge and non-commissioned officers-in-charge. They also meet with base engineers and planners as required. This provides verification and confirmation of previously gathered data and impressions. Space utilization, workload output, and present and proposed staffing are the chief evaluation points. At the end of each day the FUS team members discuss their findings.

Depending on the size and complexity of the facility, by day three, the team is ready to begin floor plan sketch overlays of possible solutions to space or functional deficiencies. Also, the base civil engineer is consulted as required on serious life, fire and seismic safety issues; and medical facility infrastructure

concerns including water, sewer, electrical, air handling, and medical gasses. Additionally, he is consulted on environmental, traffic, parking and base master plan issues. The end of this phase of the FUS is the outbrief of the medical facility's executive committee. The facility commander is briefed beforehand to assure that there are no misinterpretations or misconceptions. The commander is given a written copy of the outbrief and overlay copies of the floor plan sketches with the proviso that final recommendations may change because of later evaluation.

The Final Report

After the observation, interview, data verification, fact finding, and initial sketching, the team returns to the Regional Office for reflection or further analysis, study and research. This can be a time-consuming process because each recommendation must be reconsidered to assure life and fire safety code compliance, functional integrity, and cost effectiveness. Code compliance is not negotiable. Functional relationships have some variables. Cost, especially relating to O&M solutions, requires looking at a problem from many different angles to assure the most economical solution. Occasionally we recommend a less than perfect solution to lower the cost so it can be accomplished through O&M funding. This is an important point—a completed 75 percent solution is of more benefit than a 100 percent design of an unfunded project.

With research complete and alternatives reduced to the most achievable and cost-effective, we prepare the final report and drawings. The written report follows a basic staff study format, where the problem is defined, factors bearing on the problem are stated, alternative solutions examined, recommendations made, and alternatives chosen. Usually there are multiple problems with diverse alternatives in many departments of the facility. The interrelationships and interdependencies of the departments require priorities for completion. Usually the number of problem areas and the number of best solutions far outstrip the dollars available. Priorities are not only required, but dictated.

Cost estimating is not an exact science, but is necessary to help determine priorities. Incremental solutions to several areas are usually better than a completed solution to one problem, except where safety and code compliance are issues. The written report, prioritized projects with cost estimates, and supporting computer assisted design drawings are published and sent to the facility and the MAJCOM to develop priorities in their planning, programming and budgeting. Normally, a suggested Five-Year Facility Improvement Plan is included in the report. It indicates the projects and other actions recommended for each phase, with estimates for budget planning purposes. this phase of the FUS takes approximately four to six weeks. A process that began three of four months ago is now in the hands of the medical facility.

Follow-Up

Once implementation of the FUS plan, or a base- or MAJCOM-level alternative is begun, the Health Facilities Officer may be involved in a periodic follow-up to assist in modifications required by minor changes in workload, mission, or priority. The FUS–induced solution is not a Military Construction Program solution, nor was it ever intended to be. Rather, it is a solution for a minor situation or adequate for a series of situations that have developed over time. The facility Utilization Study solution is attainable. It is within the capability and capacity of base and MAJCOM medical and engineering personnel to implement. It does not require 10 to 15 years, nor does it require an act of Congress to implement.

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Conditional Reserve Status and Regular Air Force Augmentation

Maj. Frank L. Rubino, MSC

Career status for young Nurse Corps, Biomedical Sciences Corps and Medical Service Corps officers will soon be changing in connection with modifications to be made by the line of the Air Force. Indefinite reserve status will be replaced by conditional reserve status and there will be alterations to Regular Air Force augmentation timing and procedures.

The existing Indefinite Reserve Status (IRS) program provides officers who apply for and are granted an indefinite date of separation roughly coinciding with their 20th year anniversary. This gives the inaccurate perception that an officer who is granted IRS is guaranteed a 20-year career. Of course, it is promotion to major and not IRS status that determines retirement eligibility since officers not selected for major

after two considerations will be involuntarily separated (after approximately 13 years commissioned service for those appointed without constructive service credit).

Conditional Reserve Status (CRS) has been designed to minimize confusion. Officers will be eligible to apply for CRS when they have more than two years of active duty. CRS selection rates will continue to be high but may vary by Air Force Specialty Code and Board. The selected officer will receive a date of separation (DOS) of approximately one year before projected eligibility to compete for major.

Required To Compete

Until now, the practical effect of augmentation into the Regular Air Force has been slight. Reserve Officers competed for major and lieutenant colonel with very little disadvantage compared with regular officers. Under the new policy, however, regular status will be required to compete for major because that status will be needed just to extend past the CRS date of separation. Regular Air Force boards will be timed much differently from that of the present system. The current system has regular selection boards at intervals of three, five and seven years of commissioned service. These reflect promotional opportunities of 20, 20 and 50 percent, respectively. Future regular boards will be timed in relation to the individual's date of rank as a captain. Boards will convene at the captain plus two year and captain plus five year periods. Opportunities for choice of air force specialty code may vary, but will generally be about 50 percent at the time of the first board and up to 100 percent during the second.

For example, an officer who entered active duty as a second lieutenant in July 1989 with a DOS in June 1992 would be eligible to apply for CRS in July 1991 after completing two years of active duty. CRS, if granted, will extend the officer beyond June 1992 until 1999, which is one year before consideration for promotion to the rank of major. To compete for major, therefore, the officer must be granted regular status at either the first board in 1995 (two years after promotion to captain in 1993) or the second board in 1998. If not granted regular status, the officer would be required to separate from active duty on the conditional reserve status date of separation in 1999. As in the present system, two failures of selection to regular Air Force major would result in separation with readjustment or severance pay, unless the officer were selected for continued service as a reserve officer.

This concept of timing the regular board in relation to date of rank to captain has been devised to adjust for constructive service credit. That is the mechanism by which newly accessed officers are awarded advanced standing for civilian education and civilian or military experience. Regardless of the amount of credit offered, regular Air Force consideration is timed based upon date of rank of captain. This means, however, that those with constructive credit will have leaner selection folders than those who entered the Air Force with less credit. Since regular Air Force selection may focus more on AFSCs than in the past, officers will be competing against others with comparable Air Force experience rather than against the officer who has an abundant folder and more time on active duty. Historically, those with constructive service credit have had less performance data in their selection folder than those with less credit. The Medical Service Corps has been successful at raising the awareness level of selection boards to this fact and plans to continue to make it an issue.

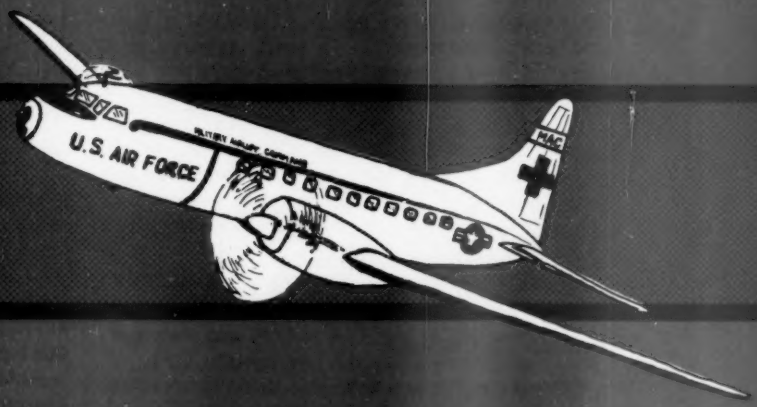
Another aspect of the process is that officers who decline a regular commission must separate on the first day of the 12th month after the release of the regular Air Force board results, unless they are selected for continued service as a reserve officer.

Officers who are not eligible for the regular Air Force because of substantial enlisted service will be treated as much as possible like officers who are eligible for service in the regular Air Force. Those ineligibles will receive the same CRS DOS of approximately one year before expected eligibility to compete for major. They must be selected by the board to continue beyond their CRS DOS as a reserve officer. If not selected, the officer will separate at the CRS DOS unless he is within the retirement sanctuary zone. Officers, who because of substantial constructive service credit, enter the Air Force as a major, and are eligible for regular appointment are normally offered regular status if selected for promotion to lieutenant colonel.

Why did the Medical Service adopt this significantly different system? Like line personnel managers, those of us in design and implementation wanted to enhance the value of a regular commission. Also, this new system clarifies the expectations of an individual's length of service, and allows the force to be shaped by AFSC.

Air Force Regulation 36–14 "Indefinite Reserve Status" will be rescinded and combined with AFR 36–5 "Appointment of Officers in the Regular Air Force." The first regular Air Force board under the new procedures will be held in August 1989. The Medical Service anticipates applying the new CRS policies after Jan. 1, 1990. Reserve officers who will have two or more years of active duty and who submit their IRS CRS application by Dec. 31, 1989, will be considered under the present IRS rules. The Office of the Surgeon, Air Force Military Personnel Center, designed and implemented the new system. Questions may be directed there by dialing Autovon 487-6725.

At the time he wrote this article, Maj. Frank L. Rubino was a program manager in the Health Personnel Policy and Programs Division, Directorate of Medical Plans and Resources, Office of the Surgeon General.



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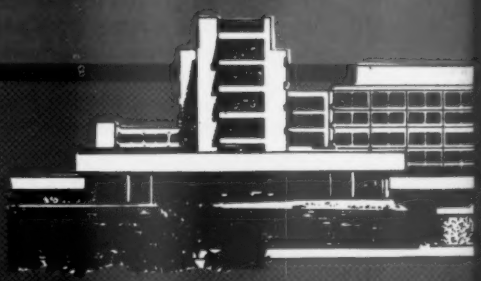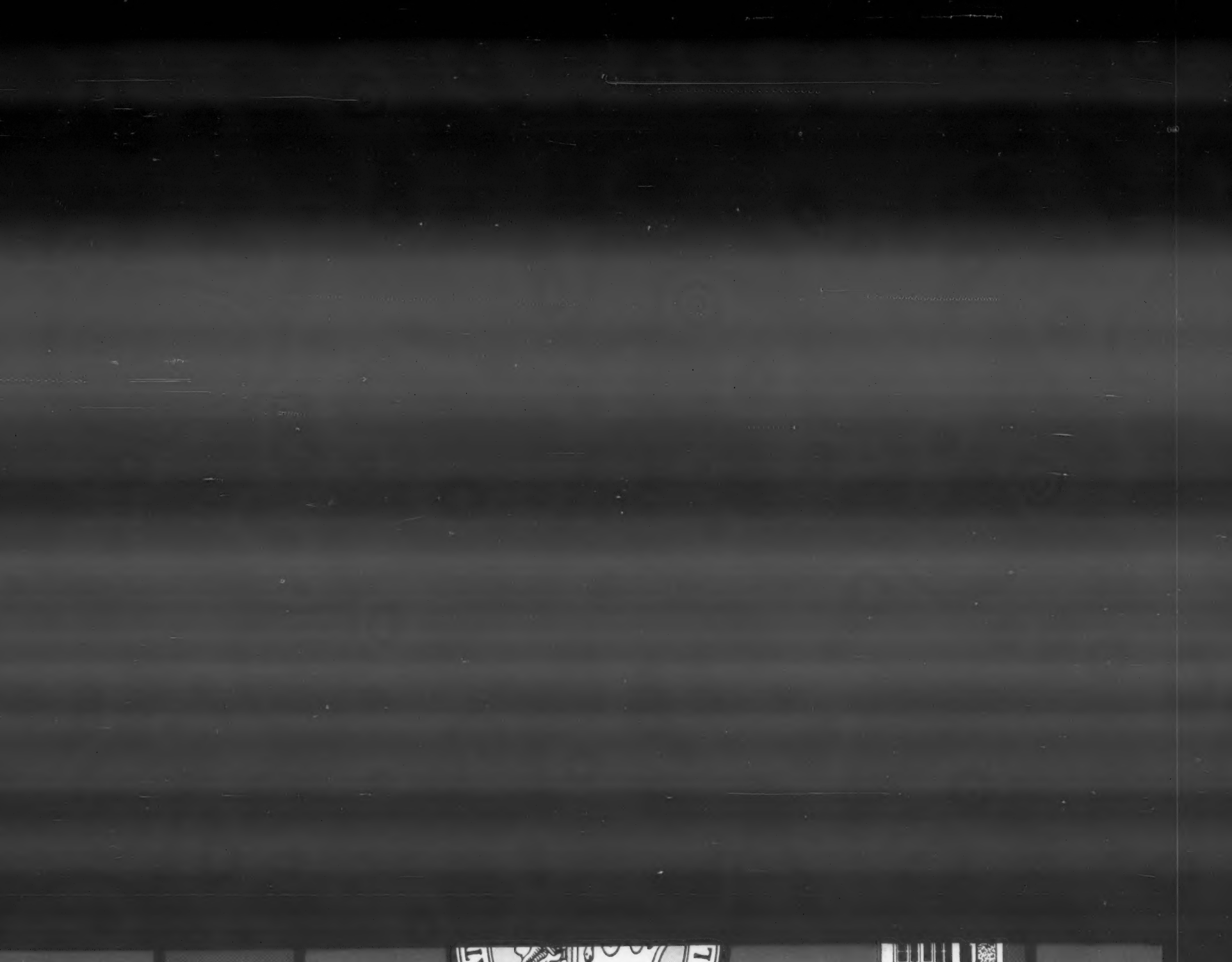
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